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- (a) a first compound that promotes propagation or survival of ES cells;
and
- (b) a second compound that inhibits propagation or survival of cells other than ES cells.

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14. (Amended) A method according to Claim 12 wherein the second compound selectively inhibits a signaling pathway essential to propagation or survival of cells other than ES cells.

15. (Amended) A method according to Claim 12, wherein the second compound is selected from the group consisting of: compounds which inhibit activity of the enzyme SHP-2; compounds that inhibit the ras/MAPK cascade; compounds that inhibit MEK; compounds that inhibit a mitogen activated protein kinase; and compounds that inhibit cyclin dependent entry into S-phase of non-ES cells.

16. (Amended) A method according to Claim 12 wherein the first compound is a cytokine that activates the cytokine receptor gp130 in ES cells.

17. (Amended) A method according to Claim 12, wherein the first compound is LIF.

18. (Amended) A composition for selective culture of ES cells, comprising a synergistic combination of (a) a first compound that inhibits differentiation of ES cells, and (b) a second compound that inhibits propagation or survival of cells other than ES cells.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-406-4000

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CONT.

19. (Amended) A composition according to Claim 18 wherein the second compound selectively inhibits a signaling pathway essential to propagation or survival of cells other than ES cells.

20. (Amended) A composition according to Claim 18 wherein the second compound is selected from the group consisting of: compounds which inhibit activity of the enzyme SHP-2; compounds that inhibit the ras/MAPK cascade; compounds that inhibit MEK; compounds that inhibit a mitogen activated protein kinase; and compounds that inhibit cyclin dependent entry into S-phase of non-ES cells.

21. (Amended) A composition according to Claim 18 wherein the first compound is a cytokine that binds to the cytokine receptor gp130.

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27. (Amended) A culture medium according to Claim 25 wherein the second compound is selected from the group consisting of: compounds which inhibit activity of the enzyme SHP-2; compounds that inhibit the ras/MAPK cascade; compounds that inhibit MEK; compounds that inhibit a mitogen activated protein kinase; and compounds that inhibit cyclin dependent entry into S-phase of non-ES cells.

28. (Amended) A culture medium for culture of ES cells and comprising (a) a first compound that promotes proliferation of ES cells, and (b) a second compound that inhibits propagation or survival of cells other than ES cells, wherein the combination of the first and second compounds is synergistic.

LAW OFFICES

FINNEGAN, HENDERSON,
PARABOW, CARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

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30. (Amended) A culture medium according to Claim 28, wherein the second compound selectively inhibits a signalling pathway essential to propagation of cells other than ES cells.

31. (Amended) A culture medium according to Claim 28, wherein the second compound is selected from the group consisting of: compounds which inhibit activity of the enzyme SHP-2; compounds that inhibit the ras/MAPK cascade; compounds that inhibit MEK; compounds that inhibit a mitogen activated protein kinase; and compounds that inhibit cyclin dependent entry into S-phase of non-ES cells.

32. (Amended) A culture medium according to Claim 28, wherein the first compound is a cytokine that activates the cytokine receptor gp130 in ES cells.

33. (Amended) A culture medium according to Claim 28, wherein the first compound is LIF.

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36. (Amended) A method according to Claim 34 comprising developing an embryo in vivo, harvesting the embryo prior to pro-amniotic cavity formation and isolating cells therefrom.

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39. (Amended) A method according to Claim 34, wherein the compound that selectively inhibits propagation or survival of cells other than ES cells is selected from the group consisting of: compounds which inhibit activity of the enzyme SHP-2; compounds that inhibit the ras/MAPK cascade; compounds that inhibit MEK; compounds that inhibit a mitogen activated protein kinase; and compounds that inhibit cyclin dependent entry into S-phase of non-ES cells.

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FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
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WASHINGTON, DC 20005
202-408-4000